

REMARKS

The Office Action issued May 22, 2001 has been reviewed and the comments of the U.S. Patent and Trademark Office have been considered. Claims 1, 3, 7, 8, 12 and 15 have been amended. No new matter has been added. Accordingly, Applicants request reconsideration of the pending claims 1-18.

Claims 1-10 and 12-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,136,999 to Bassler et al., ("Bassler") in view of U.S. Patent 6,019,089 to Taylor et al., ("Taylor"). Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Bassler and Taylor and in view of U.S. Patent 5,752,487 to Harrell et al., ("Harrell").

Insofar as the rejection can be applied to amended claims 1, 8, 12 and 15, Applicants respectfully traverse this rejection because Bassler and Taylor, singularly or in combination, fail to teach or suggest every element of amended claims 1, 8, 12 and 15.

Amended claims 1 and 8 recite a mounting arrangement with, *inter alia*, a clip having a wall and a pair of legs, the legs and wall each having a respective length along the longitudinal axis, the length of the wall being less than either length of the legs. Amended claim 12 recites a clip with a wall, a first leg and a second leg projecting from the wall, a length of the wall along the longitudinal axis being less than the length of each leg. Amended claim 15 recites a method of mounting a fuel injector by, *inter alia*, securing the at least one fuel injector with a fastener, the fastener having a wall and a pair of legs projecting from the wall, a length of the wall being less than the length of each leg. Support for this amendment to the claims can be found in the originally filed specification, for example, at page 7 and Figures 1 and 2.

In sharp contrast, Bassler states in column 3, lines 11-20, that two segments 27, 28 extend from the web member 20 that interconnects spring legs 18 and 19. As shown in Figure 3 of Bassler, the length of the segments 27 (being part of the web 30) extends beyond a length of the either spring leg 18 or 19 as referenced to the longitudinal direction of the fuel injector of Bassler. Thus, a length of the web 20 (shown as segments 27) is greater than a length of each of the

spring leg 18 or 19 as referenced with respect to the longitudinal direction instead of being less than the length of each leg as recited in claims 1, 8, 12 and 15.

Notwithstanding the deficiencies in Bassler, the Office Action asserts that it would have been obvious to modify Bassler based upon by Taylor to increase the axial movement of the injector within the clip of Bassler. Taylor states, on column 4, lines 10-15, that an orientation tab 46 extends from the body 44 and a shorter tab 48 also extends from the body 44. However, the proposed combination of Bassler and Taylor, asserted inappropriately to reach the claimed invention as a whole, as recited in amended claims 1, 8, 12 and 15, would necessarily destroy the holding feature (column 3, lines 58-61) of the segments 27 of Bassler. As can be seen in Figure 1 of Bassler, the length of the segments 27 is greater than the length of the spring leg 18 or 19, whereas in Taylor, the length of the body 44 is much less than a length of the tab 46 or 48. Thus, there is no suggestion or teaching in Taylor to modify Bassler to achieve the claimed invention as a whole. Accordingly, the rejection to claims 1, 8, 12 and 15 should be withdrawn, because the claimed invention as a whole recites features not taught or suggested by Bassler or Taylor.

Claims 2-7, 9-11, 13, 14 and 16-18 depend ultimately from respective independent claims 1, 8, 12 and 15, are therefore also allowable for at least the same reason as claims 1, 8, 12 and 15, as well for reciting additional features.

Conclusion


In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration and allowance of claims 1-18. Applicants respectfully invite the Examiner to contact the undersigned at (202) 467- 7203 if there are any outstanding issues that can be resolved via a telephone conference.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

EXCEPT for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

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VERSION SHOWING MARKED UP CHANGES

IN THE CLAIMS:

Claims 1, 3, 7, 8, 12 and 15 have been amended as follows:

1.(Twice Amended) A mounting arrangement, comprising:

a fuel rail;

a fuel injector cup connected to the fuel rail, the fuel injector cup having a fuel communication area defining a longitudinal axis, a fuel rail mounting section, and a retaining surface;

a fuel injector including a fuel metering end and a fuel outlet end, the fuel inlet end being exposed to the communication area; and

a fastener that secures the fuel injector to the fuel injector cup and allows the fuel injector to reciprocate along the longitudinal axis of the fuel injector cup, ~~wherein the fastener limits~~ **and to limit** reciprocation of the fuel injector along the longitudinal axis in a direction toward the fuel injector cup and away from the fuel injector cup, **the fastener having a wall and a pair of legs projecting from the wall, the pair of legs straddling both the fuel injector cup and fuel injector, the legs and wall each having a respective length along the longitudinal axis, the length of the wall being less than the length of each leg.**

3.(Amended) The mounting arrangement of claim 2, wherein **each leg of** the fastener comprises ~~[a clip having a wall and a pair of legs projecting from the wall, the pair of legs straddling both the fuel injector cup and fuel injector, each leg having]~~ a tab and a window, the tab having a mating surface that engages the retention groove of the fuel injector housing, the window having a frame that engages the retaining surface of the fuel injector cup.

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7.(Amended) The mounting arrangement of claim 6, wherein the mounting arrangement comprises a production assembly having the ~~{clip}~~ **fastener** installed by an automated process, the production assembly being capable of satisfying at least an appropriate assembly integrity test and environmental vibration test.

8. (Twice Amended) A mounting arrangement, comprising:

a fuel rail;

a plurality of fuel injector cups connected to the fuel rail, each of the fuel injector cups including a cylindrical tube defining a longitudinal axis, a fuel rail mounting section disposed at a first end of the tube, and a lip at a second end of the tube;

a plurality of fuel injectors, each fuel injector corresponding to one of the plurality of fuel injector cups, each fuel injector having a housing including a fuel metering end, a fuel inlet end, and a retention groove, the fuel inlet end of the fuel injector being disposed within the cylindrical tube of the fuel injection cup; and

a clip that engages both the lip of the fuel injector cup and the retention groove in the housing of the fuel injector to secure the fuel injector to the fuel injector cup and allow the fuel injector to reciprocate along the longitudinal axis extending through the cylindrical tube of the fuel injector cup, ~~{wherein}~~ the clip ~~{limits}~~ **limiting** reciprocation of the fuel injector along the longitudinal axis in a direction toward the fuel injector cup and away from the fuel injector cup, **the clip having a wall and a pair of legs projecting from the wall, the pair of legs straddling both the fuel injector cup and fuel injector, the legs and wall each having a respective length along the longitudinal axis, the length of the wall being less than the length of each leg.**

12. (Twice Amended) A clip for securing a fuel injector to a fuel injector cup on a fuel rail, the fuel injector having a housing **disposed along a longitudinal axis** with a retention groove, and

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the fuel injector cup having a lip, the clip comprising:

a wall having a first end and a second end, **the wall having a length disposed along the longitudinal axis;**

a first leg projecting from the first end of the wall, the first leg including a first tab and a first window, **the first leg having a length disposed along the longitudinal axis;** and

a second leg projecting from the second end of the wall, the first leg and the second leg being substantially parallel, the second leg including a second tab and a second window, **the second leg having a length disposed along the longitudinal axis;**

wherein the length of the wall is less than the length of the first or second legs;

wherein the first tab and the second tab have a corresponding mating surface configuration adapted to engage the retention groove in the housing of the fuel injector; ~~{and}~~

wherein the first window and the second window each have a substantially similar frame adapted to engage the lip of the fuel injector cup, each of the frames having a pair of landing edges extending along the corresponding leg, the pair of landing edges on each of the frames being spaced so that engagement of one of the landing edges with the lip of the fuel injector cup is exclusive of engagement of the lip of the fuel injector cup with the other of the landing edges so that the one of the landing edges limits the reciprocation of the fuel injector along the longitudinal axis in the direction toward the fuel injector cup and the other one of the landing edges limits reciprocation of the fuel injector along the longitudinal axis in the direction away from the fuel injector cup.

15. (Twice Amended) A method of mounting a fuel injector to a fuel injector cup on a fuel rail so that the fuel injector is secured to the fuel injector cup and the fuel injector can be positioned along a longitudinal axis defined by the fuel injector cup, the method comprising:

providing a fuel rail with at least one fuel injector cup, the at least one fuel

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injector cup including a retaining surface;

locating at least one fuel injector proximate the at least one fuel injector cup, the at least one fuel injector having a housing with a retention groove; and

securing the at least one fuel injector to the at least one fuel injector cup with a fastener that engages both the retention surface of the fuel injector cup and the retention groove in the housing of the fuel injector, ~~[wherein the clip limits]~~ **the fastener limiting** reciprocation of the fuel injector along the longitudinal axis in a direction toward the fuel injector cup and away from the fuel injector cup, **the fastener having a wall and a pair of legs projecting from the wall, the pair of legs stradling both the fuel injector cup and fuel injector, the wall and each leg having a length disposed along the longitudinal axis, the length of wall being less than the length of each leg.**
